CORE
Metadata, citation and similar papers at core.ac.uk
Provided by Ghent University Academic Bibliography

ParaCalc® – a novel tool to evaluate the economic importance of worm infections on the dairy farm

J. Charlier[1], M. van der Voort[1,2,3], H. Hogeveen[4], J. Vercruysse[1]
[1] Department of Virology, Parasitology and Immunology, Ghent University, Belgium, [2] Department of Agricultural Economics, Ghent University, Belgium, [3] Social Sciences Unit, Institute for Agricultural and Fisheries Research (ILVO), Belgium, [4] Chair Group Business Economics, Wageningen University, The Netherlands

Although there is a plenitude of scientific literature describing the losses in productivity that are caused by infections of cattle with gastrointestinal (GI) nematodes and the liver fluke (*Fasciola hepatica*), only few attempts have been made to convert these production losses to an economic cost. In addition, these economic assessments typically estimate the global cost of infection in a specific region. The value of such studies is limited when the purpose is to offer economic guidance in making decisions at the farm-level. The objectives of this paper were 1) to develop a tool for the veterinarian/herd advisor to estimate the herd-specific costs of GI nematode and liver fluke infections in dairy herds; 2) to apply the tool on Belgian dairy herds and 3) to evaluate the user experiences from a selected number of veterinarians. The developed tool consists of a standardized spreadsheet model with 6 steps: (1) identification of animals 'at risk' of production-limiting helminth infections; (2) assessment of the helminth infection status of the herd by measurement of serum pepsinogen and indirect ELISA results; (3) assessment of anthelmintic treatment usage and related costs; (4) assessment of the effects on production of helminth infections; (5) estimation of the monetary value of production outputs and (6) aggregation of the results. The tool was applied on data from Belgian dairy herds. Unlike previous studies that provide only a global estimate, this approach enabled us to assess the potential costs for a farmer and propose a minimum attainable disease cost. This could be used as a target value for farmers. The users evaluated ParaCalc® to be a useful tool to raise the farmer's awareness on the costs of worm infections, offering added value for their services. Future improvements and developments are discussed.